



## **PROGRESS REPORT NO. 166**

**TO:** Robert Tan, U.S. Environmental Protection Agency (EPA) – via Electronic mail  
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**DATE:** May 7, 2020

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**RE:** Upper Columbia River (UCR) Remedial Investigation/Feasibility Study  
(RI/FS) - Progress Report No. 166 Month Ending April 2020

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Pursuant to Paragraph 39 of the June 2, 2006 Settlement Agreement (Agreement), the following is intended to provide a summary of activities completed during the past month in compliance with the aforementioned Agreement. It is also intended to provide a brief summary of pending and on-going activities.

Soil Amendment Technology Evaluation Study (SATES):

TAI continued coordination with the SATES team and Kira Lynch, Superfund Technology Liaison with the Office of Research and Development (ORD), Office of Science and Policy (and Acting Chief, Site Cleanup Section #2, Remedial Cleanup Branch) during the month.

The Ohio State University (OSU) laboratory remains closed in response to the COVID-19 outbreak. When the lab reopens, the OSU team plans to analyze the last set of soil samples (time point 3) collected on March 11, 2020 for the Phase II bench-scale testing of selected soil amendments. These samples were prepared for analysis and put into storage pending analysis when the laboratory reopens.

Analytical results for baseline (time point zero, collected in September 2019) and time point 1 ( $t_1$ ) samples (collected in October 2019) were reviewed by a third-party data validator and, as of this writing, these data have been uploaded to the UCR database web tool (<http://www.teck-ucr.exponent.com>) and are available to registered users. Results from time point 2 ( $t_2$ ) samples, collected on January 11,

2020, are under review by the third-party validator. Total carbon and nitrogen analyses have not been completed on the  $t_2$  samples, as they are being analyzed by a different OSU laboratory which is also temporarily closed. These analyses will be completed when the lab reopens. OSU is proceeding with the evaluation of the preliminary baseline,  $t_1$ , and  $t_2$  results for discussions with EPA and the SATES technical team.

In coordination with EPA, TAI hosted a webinar on April 28, 2020 to provide a SATES update and data review for the SATES technical team. EPA also presented results of the biochar study being conducted by ORD with a Regional Applied Research Effort grant. TAI sent a request for input on amendment selection for field-scale pilot testing (SATES Phase III) via email on April 9, 2020, and received feedback prior to the April 28 webinar.

#### Baseline Ecological Risk Assessment:

Weight of evidence (WOE) – TAI hosted a WOE webinar with EPA and its technical team on April 14, 2020. The webinar was the first of several to keep the process moving forward in lieu of what was originally intended to be an in-person workshop. After this initial webinar, representatives from TAI's and EPA's technical teams worked together to develop an agenda for three subsequent webinars to further develop the WOE process. The next webinar is scheduled for May 12, 2020. TAI distributed a slide deck via email on April 24, 2020 with a homework activity to help both TAI's and EPA's teams prepare for this call.

Upland Soil Background Assessment – TAI submitted the Revised Draft Final Technical Memorandum, Assessment of Background Concentrations of Metals and Metalloids in Upland Soils to EPA via electronic mail on March 26, 2020, along with TAI's responses to EPA comments on the draft technical memorandum (dated September 19, 2019). TAI is awaiting additional comments from EPA regarding the revised technical memorandum.

Phase 3 Sediment Study Sediment Facies Mapping – On April 14, 2020, TAI submitted a request for an extension for providing responses to EPA's comments on the Draft Phase 3 Sediment Study - Sediment Facies Mapping (SFM) Data Summary Report (DSR) and the Draft Technical Memorandum (TM) Preliminary Sediment Composition and Facies Maps for Upper Reach Operable Unit. The extension request was approved by EPA on April 14, 2020 and at the time of writing, TAI submitted response to comments and revised draft final SFM DSR and draft final SFM TM on May 4, 2020.

#### 2019 Phase 3 Sediment Study:

Benthic Macroinvertebrate (BMI) Sample Analysis Results – TAI submitted the BMI data via email to EPA on April 13, 2020. This submittal included the data validation report prepared by Environmental Standards, Inc. and the Benthos Processing

Summary prepared by EcoAnalysts, Inc. Based on discussions between EPA and TAI on the April 22, 2020 bi-weekly call, it is TAI's understanding that EPA will not be conducting a quality assurance (QA) review, similar to the QA reviews conducted for chemistry data, of the validated BMI data.

Backscatter Electron Microscopy (BSEM) – TAI provided EPA with an update on the status of the BSEM work on March 23, 2020; the BSEM samples were prepared and evaluated as suitable for analysis, but due to the lab needing to comply with State and local requirements related to COVID-19, the start of analysis was delayed. The samples were dried and mounted in epoxy, so the samples remained stable for analysis. Analysis of the BSEM samples was completed in April and a summary report is being prepared for submittal to EPA.

Toxicity Identification Evaluation (TIE) Pilot Study – TAI provided a summary analysis of the Evaluation of Ion Exchange Resins experiment to EPA via email on April 20, 2020 for review and comment. The Static Renewal vs Flow-through Test Design experiment was completed on April 22, 2020. The sulfide spiking experiment was set up on April 21, 2020 and the spiked sediment allowed to equilibrate for 7 days, then the full experiment began on April 28, 2020. TAI continued to provide weekly progress reports to EPA during the month of April, on the additional testing; these have included summaries of test results when available.

Porewater Extraction Method Study – On April 3, 2020 TAI submitted to EPA, the Revised Draft Porewater Extraction Method Study Stage 1 Report in response to comments TAI received from EPA on November 20, 2019, and a new addendum to the Stage 1 Report titled Draft Porewater Extraction Method Study Stage 2 Tests, which incorporated response to EPA's draft comments TAI received on February 7, 2020 related to preliminary study information TAI presented on a conference call with EPA on January 28, 2020.

Quality Assurance Project Plan (QAPP) Change Request – TAI submitted a revised draft final Change Request No. 6 on April 13, 2020 and received approval from EPA on May 1, 2020. At the time of writing, TAI submitted a final version of Change Request No. 6 to EPA on May 4, 2020.

Bioassay Testing – At the time of writing, bioassay samples and sample splits were shipped from ALS – Kelso to Pacific EcoRisk and Columbia Environmental Research Center, respectively, on May 4, 2020.

Human Health Risk Assessment (HHRA) – TAI received the Public Review Draft Site-wide HHRA on April 20, 2020, along with an outline of EPA's schedule and plan for the public review process. TAI has begun reviewing this document.

Should you have any questions or require any additional information, please do not hesitate to contact me at 509-623-4501.